



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,877	11/20/2000	Dokou Antoine Akemakou	1200.414	4347

7590

04/23/2003

Longacre & White
6550 Rock Spring Drive Suite 240
Bethesda, MD 20817

EXAMINER

CUEVAS, PEDRO J

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,877

Applicant(s)

AKEMAKOU, DOKOU ANTOINE

Examiner

Pedro J. Cuevas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-17 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,405,873 to Nondahl in view of U.S. Patent No. 4,727,273 to Tanaka, further in view of U.S. Patent No. 5,015,902 to Leitgeb.

Nondahl discloses the construction of a rotor for a line-start permanent magnet motor (Fig.1) comprising:

- a stator (not shown),
- a rotor (1),
- an air gap (not shown) between the stator and the rotor, and
- permanent magnets (15 and 16) incorporated in the rotor, at least one of the magnets being disposed radially so as to generate an orthoradial magnetic flux.

However, it fails to disclose an electrical machine wherein the magnets constitute at least a first group of magnets containing rare earths and a second group consisting of ferrite magnets, wherein a plurality of sub-assemblies (720, 721-731, 730, 732-800, 810 ...) is provided, each

sub-assembly combining at least one magnet of the first group with a magnet of the second group.

Tanaka teaches the construction of a permanent magnet type electric motor wherein the magnets constitute at least a first group of magnets containing rare earths and a second group consisting of ferrite magnets, wherein a plurality of sub-assemblies (12) is provided, each sub-assembly combining at least one magnet of the first group with a magnet of the second group for the purpose of minimizing the effect of flux looping from the rare earth metal containing magnet to the ferrite magnet and having a uniform flux density in the magnetic pole surface.

Leitgeb discloses the construction of a rotary electrical machine for a motor vehicle in which permanent magnets (4 & 9) incorporated inside the rotor (1) constitute at least two groups arranged in superimposed relationship in a generally radial direction.

It would have been obvious to one skilled in the art at the time the invention was made to use the magnets with the composition disclosed by Tanaka with the magnet arrangement disclosed by Leitgeb on the rotary electrical machine disclosed by Nondahl for the purpose of minimizing the effect of flux looping from the rare earth metal containing magnet to the ferrite magnet and having a uniform flux density in the magnetic pole surface.

It would have also been obvious to one having ordinary skill in the art at the time the invention was made to use rare earth materials or ferrites to construct the magnets, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,405,873 to Nondahl in view of U.S. Patent No. 4,727,273 to Tanaka, further in view of U.S. Patent No. 5,015,902 to Leitgeb as applied to claims 1 and 2 above, and further in view of JP-58-063059 to Hiroshi.

Nondahl in view of Tanaka, further in view of Leitgeb disclose the claimed invention except for a magnet sub-assembly, which comprises a magnet containing rare earths situated close to the airgap, arranged in superimposed relationship in a generally radial direction with a ferrite magnet.

Hiroshi teaches the construction of an electric motor having a rare earth permanent magnet (1) surrounded in superimposed relationship in a generally radial direction with a ferrite magnet (3), and characterised in that each sub-assembly comprises a magnet containing rare earths in superimposed relationship in a radial direction with two ferrite magnets by which it is encircled for the purpose of having a motor with good productivity and small eddy current loss.

It would have been obvious to one skilled in the art at the time the invention was made to use the magnet configuration disclosed by Hiroshi on the rotary electrical machine disclosed by Nondahl in view of Tanaka for the purpose of having a motor with good productivity and small eddy current loss.

Allowable Subject Matter

5. Claims 9-17 are allowed.
6. The following is an examiner's statement of reasons for allowance.

The prior art does not teaches the construction of an electrical machine as recited on independent claims 9 and 14, wherein each sub-assembly comprises a magnet containing rare earths interposed in a radial direction, between two ferrite magnets.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Claims 4, 5/3, 5/4 and 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teaches the construction of an electrical machine wherein each sub-assembly comprises a magnet containing rare earths interposed in a radial direction, between two ferrite magnets.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

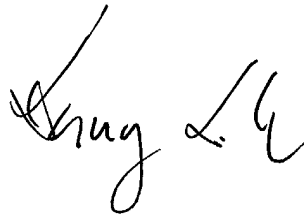
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
April 8, 2003



DANGLE
PRIMARY EXAMINER